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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BELYAVSKYI, MICHAIL A	
ART UNIT	**PAPER NUMBER**
1644	

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/001,848	CHIPMAN ET AL.	
	Examiner	Art Unit	
	Michail A Belyavskyi	1644	

-- Th MAILING DATE of this communication appears n the cover sheet with the correspondenc address --

P riod for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 September 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) *7-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. Claims 1-21 are pending.

2. Applicant's election with traverse of Group I, claims 1-6 and viral infection as a specific mammal condition in Response to Restriction Requirement, filed on 09/25/03 is acknowledged. Applicant traverse the Restriction Requirement on the grounds that the inventions must be both independent and distinct and an undue search burden on the examiner. However, MPEP 803 states that the Inventions be either independent or distinct and a burden on the Examiner if restriction is required.

Regarding applicant's comments about undue burden, the MPEP 803 (August 2001) states that "For purposes of the initial requirement, a serious burden on the examiner may be prima facie shown if the examiner shows by appropriate explanation either separate classification separate status in the art, or a different field of search". The Restriction Requirement enunciated in the previous Office Action meets this criteria, indicates that inventions recognized divergent subject matter and that a different field of search would be required based upon the structurally distinct products recited and the various methods of use comprising distinct method steps. Moreover, a prior art search also requires a literature search. All the above establishes that serious burden is placed on the examiner by the examination of more than one Group. The Inventions are distinct for reasons elaborated in the previous Office Action and above.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 7- 21 are withdrawn from further consideration by the Examiner, 37 C.F.R. § 1.142(b) as being drawn to nonelected inventions.

Claims 1-6, drawn to a method of activating the immune system in a mammal comprising administering to the mammal an effective amount of an IMXP-888 polypeptide, wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3 and under consideration in the instant application.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a methods of *in vitro* (i) induction of secretion of specific cytokine , as disclosed in Table I of the current specification, from peripheral blood lymphocytes and (ii) calcium mobilization in various types of cells by soluble IMXP-888 polypeptide (SEQ ID NO:3) by does not reasonably provide **enablement** for (i) a method of activating the immune system in a mammal wherein the mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder, comprising administering to the mammal an effective amount of an IMXP-888 polypeptide, wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and or use the invention commensurate in scope with this claim.

The specification disclosure does not enable one skilled in the art to practice the invention without an undue amount of experimentation.

Factors to be considered in determining whether undue experimentation is required to practice the claimed invention are summarized *In re Wands* (858 F2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)). The factors most relevant to this rejection are the scope of the claim, the amount of direction or guidance provided, the lack of sufficient working examples, the unpredictability in the art and the amount of experimentation required to enable one of skill in the art to practice the claimed invention.

The specification only discloses detailed *in vitro* data of (i) induction of secretion of specific cytokine , as disclosed in Table I of the current specification, from peripheral blood lymphocytes by a soluble form of the murine protein FGFR β (see pages 23 –24 of the current specification as filed) and (ii) calcium mobilization in various types of cells by a soluble form of the murine protein FGFR β (see pages25 and 26 of the current specification as filed). The specification does not adequately teach how to effectively activate the immune system in a mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder as recited in claim 2 by administering an effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3.

Moreover, no animal models were used to study the effectively of activating the immune system in a mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder by administering an effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3. Since there is no animal model studies and data in the specification to show the effectively of activating the immune system in a mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder by administering an effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3, it is unpredictable how to correlate *in vitro* results with *in vivo* use. Feldman et al (Transplant. Proc. 1998, 30, 4126-4127) teach that "while it is not difficult to study the pathogenesis of animal models of disease, there are multiple constraints on analyses of the pathogenesis of human disease, leading to interesting dilemmas such as how much can we rely on and extrapolate from animal models in disease". In addition, Cochlovius et al (Modern Drug Discovery, 2003, pages 33-38) teach that in contrast to in vitro models, and partly animal-human xenograft systems, tissue cells in vivo seems to express molecules for defense against cellular immune systems as well as against complement. Although these defense mechanisms are still poorly understood, they provide some hints as to why many potential therapeutics perform marvelously in vitro but a fairly high portion of them still fail in vivo. Thus, it is not clear that reliance on the *in vitro* data accurately reflects the relative mammal and human efficacy of the claimed therapeutic strategy. The specification does not teach how to extrapolate data obtained from *in vitro* studies to the development of effective *in vivo* mammalian including human therapeutic treatment, commensurate in scope with the claimed invention. Therefore, it is not clear that the skilled artisan could predict the efficacy of activating the immune system in a mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder as recited in claim 2 by administering an effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3. Moreover, Applicant himself acknowledge that the contrary to expectations, no direst proliferation effects of IMXP-888 were observed in any of the cell types tested. (see page 1, lines 30-35 of the Specification as filed) . As such, the invention must be considered unpredictable. Thus in the absence of working examples or detailed guidance in the specification, the intended uses of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3 in a method of activating the immune response are fraught with uncertainties.

Moreover, an effective protocol for a method of activating the immune system, is subject to a number of factors which enter the picture beyond simply the administration to the subject an

effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3. Demonstrating *in vitro* data of (i) induction of secretion of specific cytokine , as disclosed in Table I of the current specification, from peripheral blood lymphocytes by a soluble form of the murine protein FGFR β (see pages 23 –24 of the current specification as filed) and (ii) calcium mobilization in various types of cells by a soluble form of the murine protein FGFR β (see pages25 and 26 of the current specification as filed) cannot alone support the predictability of a method of activating the immune system in a mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder by administering an effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3. Van Noort et al. (International Review of Cytology, 1998) indicate factors that effect immune response such as genetic, environmental and hormonal (Page 176, Paragraph 3). The ability of a host to enhance an immune response will vary depending upon factors such as the condition of the host and burden of disease. Treatment/administration protocols depend upon the nature of the compound being administered as well as the clinical condition of the subject or patient. In the absence of additional information the skilled artisan would not have been able to use the undisclosed compound for activating the immune response without undue experimentation.

Also an issue is that Applicant has not taught how to make any polypeptide that is at least 80% homologues to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3 to be used in the method of activating the immune system in a mammal in need. The structural and functional characteristics of said peptides are not defined in the claim.
Since the amino acid sequence of a polypeptide determines its structure and functional properties, predictability of which changes can be tolerated in a polypeptide's amino acid sequence and still retain similar functionality (e.g. activating the immune system) requires a knowledge of, and guidance with regard to, which amino acids in the polypeptide's sequence, if any, are tolerant of modification and which are conserved (i.e. expectedly intolerant to modification) and detailed knowledge of the ways in which a polypeptide's structure relates to it's functional usefulness. However, the problem of predicting polypeptide structure from mere sequence data of a single amino acid sequence and in turn utilizing predicted structural determinations to ascertain functional aspects the peptides and finally, what changes can be tolerated with respect thereto is complex and well outside the realm of routing experimentation.

Because of the lack of sufficient guidance and predictability in determining which structures would lead to functional proteins or peptides with the desired properties and that the relationship between the sequence of a peptide and it's tertiary structure (i.e. its activity) was not well understood and was not predictable (e.g. see Ngo et al, in The Protein Folding Problem and Tertiary Structure Prediction, 1994. (ed.), Birkhauser, Boston, MA, pp. 433 and 492-495.); it would require an undue amount of experimentation for one of skill in the art to arrive at the breadth of proteins encompassed by the claimed invention. Without sufficient guidance, the

changes which can be made in the structure of any polypeptide that is at least 80% homologues to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3 and still specifically activating the immune system in mammals wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder is unpredictable and the experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue.

The specification does not provide sufficient teaching as to how it can be assessed that activating the immune system in mammals wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder was achieved by administering an effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3. Thus, Applicant has not provided sufficient guidance to enable one skill in the art to use claimed method of activating the immune system in mammals wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder comprising administering an effective amount of an IMXP-888 polypeptide wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3 in manner reasonably correlated with the scope of the claims. The scope of the claims must bear a reasonable correlation with the scope of enablement. *In re Fisher*, 166 USPQ 18(CCPA 1970) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute.

In view of the quantity of experimentation necessary, the unpredictability of the art, the lack of sufficient guidance in the specification, the limited working examples, and the limited amount of direction provided given the breadth of the claims, it would take undue trials and errors to practice the claimed invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant is not in possession of : a method of activating the immune system in a mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder comprising administering to the mammal an effective amount of an IMXP-888 polypeptide, wherein IMXP-888 polypeptide comprises an amino acid sequence of residues 18 to 375 of SEQ ID NO:3 or a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3.

The specification fails to define all a polypeptide that is at least 80 % homologous to a polypeptide sequence that encodes residues 18 to 375 of SEQ ID NO:3 that can be used in a method of activating the immune system in a mammal wherein said mammal has various diseases, including viral infection , bacterial infection cancer or graft v host disorder. The lack of sufficient limitations would therefore allow for all IMXP-888. Applicant has disclosed a limited number of species; therefore, the skilled artisan cannot envision all the contemplated amino acid sequence possibilities recited in the instant claims. Consequently, conception in either case cannot be achieved until a representative description of the structural and functional properties of the claimed invention has occurred, regardless of the complexity or simplicity of the method. Adequate written description requires more than a mere statement that it is part of the invention. The sequences themselves are required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993).

A description of a genus of protein sequences may be achieved by means of a recitation of a representative number of polypeptide sequences, defined by amino acid sequence, falling within the scope of the genus, or of a recitation of structural features common to the genus, which features constitute a substantial portion of the genus. Regents of the University of California v. Eli Lilly&Co., 119F3d 1559, 1569, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the written description inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.). Consequently, Applicant was not in possession of the instant claimed invention. See University of California v. Eli Lilly and Co. 43 USPQ2d 1398.

Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 37(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1, 4-6 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Publication 2002/0197674, or WO 01/70977 or by WO 01/00673.

US Patwent Publication '674 teaches a method of activating biological function in mammals, including immune response, comprising administering into the mammal an effective amount of PRO943 polypeptide or a polypeptide encoding by a sequence that is at least 80 % homologues to PRO943 polypeptide . (see entire document, Abstract, , column 41, column 169 , in particular). US Patent '674 teaches that PRO943 polypeptide is glycosylated (see column 199 in paricular). It is noted that PRO093 polypeptide is 100 % identical to the claimed IMXP-888 polypeptides of SEQ ID NO:3 (see attached sequence alignment) .

WO'977 teaches a method of treatment of diseases in mammals, including method of activation immune response, comprising administering into the mammal an effective amount of FGFR polypeptide or a polypeptide encoding by a sequence that is at least 80 % homologues to FGFR polypeptide . (see entire document, Abstract, pages 27, 60, 76, 77,in particular). WO'977 teaches that FGFR polypeptide is glycosylated (see page 37 in particular). It is noted that FGFR polypeptide is 100 % identical to the claimed IMXP-888 polypeptides of SEQ ID NO:3 (see attached sequence alignment) .

WO'673 teaches a method of treatment of diseases in mammals, including method of activation immune response, comprising administering into the mammal an effective amount of MANGO 003 polypeptide or a polypeptide encoding by a sequence that is at least 80 % homologues to FGFR polypeptide . (see entire document, Abstract, pages 5, 29 and 76 in particular). WO'673 teaches that MANGO 003 polypeptide is glycosylated (see page 30 in particular). It is noted that MANGO 003 polypeptide is 100 % identical to the claimed IMXP-888 polypeptides of SEQ ID NO:3 (see attached sequence alignment) .

The references teaching anticipates the claimed invention.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication 2002/0197674, or WO 01/70977 or by WO 01/00673 each in view of US Paten 5,807,862.

The teaching of US Patent Publication 2002/0197674 , WO 01/70977 and WO 01/00673. Have been discussed, supra.

US Patent Publication 2002/0197674, or WO 01/70977 or by WO 01/00673 do not teach a method of activating the immune system in a mammal, wherein the mammal has viral infection.

US Patent 5,807862 teaches a method of treating a number of diseases, including viral infection, in mammals including humans, by stimulating immune system in response to FGF administration (see entire document, overlapping column 12 and 13 in particular).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the teaching of US Patent 5,807862 to those of US Patent Publication 2002/0197674, or WO 01/70977 or by WO 01/00673 to obtain a claimed method of activating the immune system in a mammal, wherein said mammal has viral infection, comprising administering to the mammal an effective amount of an IMXP-888 polypeptide.

One of ordinary skill in the art at the time the invention was made would have been motivated to do so, because viral infection can be treated by activating the immune system as taught by US Patent 5,807862. This can be used in the method taught by US Patent Publication 2002/0197674, or WO 01/70977 or by WO 01/00673 of activating the immune system in a mammal, wherein said mammal has viral infection, comprising administering to the mammal an effective amount of an IMXP-888 polypeptide. The strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination. In re Semaker. 217 USPQ 1, 5 - 6 (Fed. Cir. 1983). See MPEP 2144.

From the combined teaching of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Publication 2002/0197674, or WO 01/70977 or by WO 01/00673 each in view of US Paten 5,807,862.

The teaching of US Patent Publication 2002/0197674 , WO 01/70977 and WO 01/00673 have been discussed, supra.

US Patent Publication 2002/0197674, or WO 01/70977 or by WO 01/00673 do not teach a method of activating the immune system in a mammal, wherein the mammal is human

Human is an obvious species of mammal genus. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use IMXP-888 polypeptide in a method of activating the immune system in a mammal, wherein the mammal is human as taught by 2002/0197674, or WO 01/70977 or WO 01/00673. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

11. No claim is allowed.

12. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which Applicant may become aware in the specification.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michail Belyavskyi whose telephone number is (703) 308-4232. The examiner can normally be reached Monday through Friday from 9:00 AM to 5:30 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

Michail Belyavskyi, Ph.D.
Patent Examiner
Technology Center 1600
November 17, 2003

Christina Chan
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